

Canadian National Dairy Study: Heifer calf management

C.B. Winder,¹ DVM, DVSc; **C.A. Bauman**,¹ DVM, MPH, PhD; **T.F. Duffield**,¹ DVM, DVSc;
H.W. Barkema,² DVM, PhD, FCAHS; **G.P. Keefe**,³ DVM, MSc, MBA; **J. Dubuc**,⁴ DVM, MSc, DVSc;
F. Uehlinger,⁵ DVM, PhD, DACVIM; **D.F. Kelton**,¹ DVM, PhD

¹Department of Population Medicine, University of Guelph, Guelph, Ontario, N1G 2W1, Canada

²Department of Production Animal Health, University of Calgary, Calgary, Alberta, T2N 1N4, Canada

³Department of Health Management, University of Prince Edward Island, Charlottetown, Prince Edward Island, C1A 4P3, Canada

⁴Faculté de médecine vétérinaire, Université de Montréal, Montréal, Québec, J2S 2M2, Canada

⁵Department of Large Animal Clinical Sciences, University of Saskatchewan, Saskatchewan, S7N 5B4, CANADA

Introduction

Care and management of dairy heifer calves early in life has substantial short- and long-term impacts, from affecting calf morbidity and mortality rates to future milk production. In the past decade, substantial changes have occurred in the way dairy heifer calves are managed. Animal welfare standards have also changed globally. While there is some evidence that the use of pain control for disbudding has increased in the province of Ontario in recent years, no national data have been collected regarding this practice. Other early life heifer calf management practices, as well as morbidity and mortality rates, have not been described at the Canadian national level. In this regard, the objectives of this study, part of phase I of the 2015 Canadian National Dairy Study, were to examine heifer calf health, adoption of rearing practices, and explore factors associated with different rearing strategies on Canadian dairy farms.

Materials and Methods

The first National Canadian Dairy Study was conducted in 2015 as a multi-institutional study with collaboration between the Universities of Calgary, Guelph, Montreal, and Prince Edward Island. This study consisted of 2 phases, the first of which was a questionnaire offered to all Canadian dairy producers between March 1 and April 30, 2015. The 189-question survey was offered in both English and French, and invitations were sent to all licensed dairy producers in Canada by a third party.

Results

The questionnaire garnered a 12% response rate (n=1,373) and generally reflected available demographic information about the source population. Fifty-one percent of respondents reported never allowing heifer calves to nurse their dam, while 17% always removed calves within 30 min of birth. Seventy-seven percent of respondents reported calving and stillbirth information for 2014; mean reported stillbirth rate was 4.9% (SD=3.3). Forty percent housed

calves in individual pens, 34% in group pens, 21% in individual hutches, 2% reported tethering calves, and 1% used group hutches. Of those who housed calves in groups, 59% reported the maximum group size was 3 to 10 calves, 31% a pair (2) of calves per pen or hutch, and 10% a group >10 calves. The mean maximum amount of milk offered to calves per day during the preweaned period was 8 L (SD=3). Fifty percent of respondents reported mortality data for 2014; mean preweaned mortality was 6.4% (SD=8.3), and post-weaned mortality was 2.4% (SD=4.4). Over 95% of producers reported disbudding practices; 86% used cautery, 11% used surgical amputation, and 9% used caustic paste. Twenty-eight percent reported disbudding at less than 3 wk of age, 60% at 3 to 8 wk, 22% at 8 to 16 wk, and 5% reported dehorning at more than 16 wk of age. Sixty-six percent of cautery users reported use of local anesthetic, 33% used sedation, and 25% used an NSAID. Multi-variable regression models showed that the use of local anesthetic when disbudding calves was associated with social media activity (OR=2.3) and high-speed internet access (OR=2.0), whereas sedation was associated with geographic region, and NSAID use was associated with disbudding at more than 3 weeks of age.

Significance

This survey provides useful benchmarking information on the care and management of heifer calves on Canadian dairy farms. Best predictors of best management practices for the care of pre- and post-partum cows and neonatal calves were often associated with each other, but were not routinely associated with other demographic factors examined in this survey. A distinct lack of information provided in the mortality section of this survey was unlike all other survey sections; this study therefore identifies an important factor towards improving calf health in the industry. Ensuring calf mortality data are routinely collected on farm will serve to not only provide information to the producer and advisors on a farm-level basis, but would also provide the industry with a more comprehensive understanding of calf health on Canadian dairy farms.